UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte HAMID OULD-BRAHIM

_____

Appeal 2009-008032
Application 10/747,967[1]
Technology Center 2100

_____

Before JOHN A. JEFFERY, DEBRA K. STEPHENS, and
JAMES R. HUGHES, *Administrative Patent Judges.*

HUGHES, *Administrative Patent Judge.*

DECISION ON APPEAL

_____

STATEMENT OF THE CASE

Appellant appeals from the Examiner's rejection of claims 21 and 22 under authority of 35 U.S.C. § 134(a). Claims 1-20 have been canceled. (Br. 3.) The Board of Patent Appeals and Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Appellant's Invention

The invention at issue on appeal relates to an apparatus for emulating services, especially layer-2 service, over a network. In particular, the invention relates to an intermediate node in a multihop pseudo-wire (MPLS/IP/ATM/frame relay/Ethernet pseudo-wire). (Spec. ¶¶ [0001], [0005], [0044]-[0052].)[2]

Representative Claims

Independent claims 21 and 22 further illustrate the invention and are reproduced below with the key disputed limitations emphasized:

> 21. An intermediate node in a multihop pseudo-wire comprising:
> *a forwarder for:*
> *terminating a first pseudo-wire segment of said multihop pseudo-wire*, where a description of said first pseudo-wire segment includes, as a target, an attachment individual identifier associated with said forwarder; *and*
> *originating a second pseudo-wire segment of said multihop pseudo-wire*, where a description of said second pseudo-wire segment includes, as a source, said attachment individual identifier associated with said forwarder.

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[2] We refer to Appellant's Specification ("Spec.") and Appeal Brief ("Br.") filed August 20, 2008. We also refer to the Examiner's Answer ("Ans.") mailed October 28, 2008.

22. An intermediate node in a multihop pseudo-wire comprising:

    a first forwarder for terminating a first pseudo-wire segment of said multihop pseudo-wire, where a description of said first pseudo-wire segment includes, as a target, an attachment individual identifier associated with said first forwarder; and

    a second forwarder for originating a second pseudo-wire segment of said multihop pseudo-wire, where a description of said second pseudo-wire segment includes, as a source, an attachment individual identifier associated with said second forwarder.

References

The Examiner relies on the following references as evidence in support of the rejections:

Li	US 5,473,599	Dec. 5, 1995
Zelig	US 2004/0037279 A1	Feb. 26, 2004 (filed Aug. 23, 2002)

Rejections on Appeal

1.   The Examiner rejects claims 21 and 22 under 35 U.S.C. § 102(e) as being anticipated by Zelig.

2.   The Examiner rejects claims 21 and 22 under 35 U.S.C. § 102(b) as being anticipated by Li.

ISSUES

Based on our review of the administrative record, Appellant's contentions, and the Examiner's findings and conclusions, the pivotal issues before us are as follows:

1.   Does the Examiner err in finding that Zelig discloses "a forwarder for: terminating a first pseudo-wire segment of said multihop pseudo-wire, where a description of said first pseudo-wire segment includes, as a target, an attachment individual identifier associated with said forwarder; and originating a second pseudo-wire segment of said multihop pseudo-wire, where a description of said second pseudo-wire segment includes, as a source, said attachment individual identifier associated with said forwarder" as recited in claim 21?

2.   Does the Examiner err in finding that Zelig discloses "a first forwarder for terminating a first pseudo-wire segment of said multihop pseudo-wire, where a description of said first pseudo-wire segment includes, as a target, an attachment individual identifier associated with said first forwarder; and a second forwarder for originating a second pseudo-wire segment of said multihop pseudo-wire, where a description of said second pseudo-wire segment includes, as a source, an attachment individual identifier associated with said second forwarder" as recited in claim 22?

FINDINGS OF FACT

We adopt the Examiner's findings in the Answer and Final Office Action as our own, except as to those findings that we expressly overturn or set aside in the Analysis that follows. We also add the following factual findings:

Zelig Reference

1.   Zelig describes a Virtual Private Network ("VPN") (element 20) operating within an Internet Protocol ("IP") or Multiprotocol Label Switching ("MPLS") network (element 22). The VPN is built around a

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virtual private LAN service ("VPLS"), which is based on virtual bridges
(element 24) or VPLS-capable provider edge ("PE") devices connected by a
pseudo wire ("PW") (element 26) (*see* ¶ [0009]) through the network
(element 22). Virtual bridges connect directly to user nodes or customer
edge ("CE") devices through Ethernet physical interfaces (element 30) or
virtual PW connections (element 31) to "a 'simple' PE node" (element 29).
(¶ [0048]; Fig. 1.) Each virtual bridge (element 24) includes a forwarding
engine (element 34). (¶ [0050]; Fig. 2.)

       2.   Zelig describes the detailed operation of the forwarding engine
– the forwarding engine receives a data packet (element 42) on one of its
ports (real or virtual). The various nodes send data packets having the
format shown in FIG. 4 over one of PWs (element 26) or virtual connections
(element 31). The data packet contains a Media Access Control ("MAC")
destination address ("DA") (element 48) and source address ("SA") (element
50), as well as a data payload (element 52). Various nodes also send data
packets having the format shown in FIG. 5 over one of PWs (element 26).
The data packet contains an Internet Protocol ("IP") source address ("SA")
(element 74) and a destination address ("DA") (element 72). The
forwarding engine encapsulates outgoing packets for transmission through
PWs and virtual connections. (¶ [0053]; Figs. 1, 2, 4, 5.)

       3.   Zelig also describes a VPN (element 90) utilizing the multicast
capabilities of an underlying network (element 92). Virtual bridges (element
94) connect to user nodes (element 28) through the network. Virtual bridges
connect to one another through routers (element 96). Routers may be IP
routers utilizing IP address routing, or multicast-capable label-switched
routers (LSRs), interconnected by MPLS tunnels. (¶ [0067]; Fig. 6.) In any

case, the virtual bridges connect to each other using virtual connections such
as an MPLS tunnel. (¶ [0069].) The data packet transmitted through the
network (element 92) contains a source address ("SA") (element 104) and a
destination address ("DA") (element 106) that identify the sending (source)
and destination nodes, respectively. (*See* ¶¶ [0068]-[0069]; Fig. 7.)

ANALYSIS

Appellant argues independent claims 21 and 22, all the claims
pending in this appeal. (Br. 5-14.) Appellant did not file a Reply Brief
responding to the Examiner's Answer. We have considered only those
arguments that Appellant has actually raised in the Brief. Arguments that
Appellant could have made but chose not to make in the Brief have not been
considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Anticipation is a question of fact. *In re Schreiber*, 128 F.3d 1473,
1477 (Fed. Cir. 1997). Under 35 U.S.C. § 102, "[a] claim is anticipated only
if each and every element as set forth in the claim is found, either expressly
or inherently described, in a single prior art reference." *Verdegaal Bros.,
Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987); *see
Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005)
(citation omitted).

Appellant has the opportunity on appeal to the BPAI to demonstrate
error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86
(Fed. Cir. 2006) (citing *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).
The Examiner sets forth a detailed explanation of the anticipation rejection
in the Examiner's Answer with respect to each of Appellant's claims. (Ans.

4-10). Therefore, we look to the Appellant's Brief to show error in the proffered findings and reasoned conclusions. *See Kahn*, 441 F.3d at 985-86.

Arguments Concerning the Examiner's Rejection
of Claim 21 Under § 102

The Examiner rejects claim 21 as being anticipated by Zelig. (Ans. 4-8.) Specifically, the Examiner interprets claims 21 to include statements of intended use of the forwarder, to which the Examiner assigns no patentable weight. (Ans. 7.) The Examiner also finds Zelig discloses an intermediate node in a multihop pseudo wire, including forwarding logic (a forwarding engine) that terminates a first pseudo wire segment and originates a second pseudo wire segment, and the data transmitted over the segments includes identifiers for the forwarding engine (i.e., the description of the pseudo wire(s) (segment(s)) include identifier(s) associated with the forwarding engine. (Ans. 4, 7 (citing Zelig ¶ [0053]; Figs. 1, 2, 4, 5).)

Appellant, on the other hand, contends that "Zelig does not disclose each and every element recited in claim 21. . . . [because] the pseudo wires discussed in Zelig are point-to-point and 'full mesh' . . . and . . . <u>multihop</u> pseudo wires are not considered by Zelig." (Br. 9.) Appellant further argues that "the forwarding engine . . . would merely terminate pseudo-wire segment 142. . . . [but] would not originate pseudo-wire segment 146, as required by claim 21." (*Id.*) Appellant also argues that "Zelig provides no disclosure to suggest that the forwarding engine 34 of the virtual bridge 24 would appropriately interpret the description of the first pseudo-wire segment including, as a target, an attachment individual identifier." (*Id.*)

Based on the record before us, we do not find error in the Examiner's anticipation rejection of claim 21. We agree with the Examiner that the

limitations of Appellant's claim recite a forwarder and an intended use of the forwarder (Ans. 6) and that Zelig discloses the pseudo wires, a forwarding engine, and identifiers as recited in Appellant's claim (Ans. 4, 7).

We begin our analysis by construing Appellant's claim. We give claim limitations the "broadest reasonable interpretation consistent with the [S]pecification" in accordance with our mandate that "claim language should be read in light of the [S]pecification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (citations omitted).

Appellant's claim 21 recites, in relevant part:

> a forwarder for:
>
> > terminating a first pseudo-wire segment of said multihop pseudo-wire, where a description of said first pseudo-wire segment includes, as a target, an attachment individual identifier associated with said forwarder; and
> >
> > originating a second pseudo-wire segment of said multihop pseudo-wire, where a description of said second pseudo-wire segment includes, as a source, said attachment individual identifier associated with said forwarder.

(Br. 15, claim 21.) Appellant's claim recites a forwarder, which we conclude to be a machine or device. The "description" of the pseudo wire segment is merely data utilized by the forwarder to "terminate" and "originate" the pseudo wire segments. As such, the "description" constitutes non-functional descriptive material, which merely correspond to data and recite what the information or data represents. How the data retained in a device may be named or labelled does not functionally change the device. The acts of "forwarding," "originating," or "terminating" data by the device are the same regardless of how the data may be named. Merely labelling

data as a "description," as opposed to some other unique identifier, does not further limit the claimed invention either functionally or structurally. The informational content of the data thus represents non-functional descriptive material, which "does not lend patentability to an otherwise unpatentable computer-implemented product or process." *Ex parte Nehls*, 88 USPQ2d 1883, 1889 (BPAI 2008) (precedential). *See Ex parte Curry*, 84 USPQ2d 1272, 1274 (BPAI 2005) (informative), *aff'd*, No. 06-1003 (Fed. Cir. June 12, 2006) (Rule 36) ("wellness-related" data in databases and communicated on distributed network did not functionally change either the data storage system or the communication system used in the claimed method). *See also In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *Nehls*, 88 USPQ2d at 1887-90 (discussing non-functional descriptive material).

Also, the recited functionality of the forwarder is merely a statement of intended use of the forwarder, which "usually will not limit the scope of the claim because such statements usually do no more than define a context in which the invention operates." *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1345 (Fed. Cir. 2003). The claim recites a forwarder – this is an apparatus (machine or device), not a process. Accordingly, if the prior art structure is capable of performing the intended use, it meets the claim limitation. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647, 1648 (BPAI 1987). Similarly, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the

prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78 (Fed. Cir. 1997). "[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990). Put simply, how an apparatus invention is used is not germane to whether it is anticipated by the prior art.

Consequently, we find that the Appellant's disputed claim limitations at most recite a forwarding logic in a pseudo wire (pseudo wire network). Based on our claim construction, we find that Zelig discloses such forwarding logic. (FF 1, 2.)

As explained by the Examiner (Ans. 7), assuming *arguendo* we ascribe patentable weight to the statements of intended use and non-functional descriptive material, Zelig describes the forwarder as recited in claim 21. Specifically, Zelig describes virtual bridges, each of which includes a forwarding engine, connected to one another through pseudo wire connections (pseudo wires, pseudo wire segments, or a pseudo wire network), and connected to user nodes through Ethernet connections or virtual pseudo wire connections to provider edge (PE) nodes. (FF 1.) The forwarding engine receives or sends a data packet having the format shown in Figures 4 and 5 on one of its ports. The forwarding engine receives or sends the data packet over one of the pseudo wire connections. Each data packet transferred over a pseudo wire connection must include a source and a target (destination) identifier or address (the so-called pseudo wire attachment individual identifier (AII)). (*See* Spec. ¶¶ [0051]-[0052]; Zelig ¶¶ [0006]-[0009].) Each data packet transferred in Zelig's network contains a MAC DA (destination address) and a MAC SA (source address) and may

also contain the IP SA (source address) and IP DA (destination address). (FF 2.)

For example, PE Node (29) (PE) forwards a data packet to Virtual Bridge 1 (VB1) over a pseudo wire connection (virtual connection (31)). VB1 forwards the data packet to Virtual Bridge 2 (VB2), which in turn forwards it to the intended user node. VB1 receives (terminates) and forwards (sends or originates) the data packet to VB2. The packet received by VB1 from PE necessarily includes an identifier for VB1 as the destination (target). The packet sent (originated) by VB1 to VB2 necessarily includes an identifier for VB1 as the source.

Thus, we also find that Zelig discloses the disputed claim limitations of "a forwarder" that: "terminat[es] a first pseudo-wire segment," and "originat[es] a second pseudo-wire segment"; wherein "a description of [a] first pseudo-wire segment includes . . . a target . . . attachment individual identifier associated with said forwarder" and "a description of [a] second pseudo-wire segment includes . . . a source . . . attachment individual identifier associated with said forwarder" as recited in Appellant's claim 21. We also note that Appellant failed to file a Reply Brief to rebut the findings and responsive arguments made by the Examiner in the Answer. Consequently, and for the reasons stated above, we find Appellant's contrary arguments unpersuasive. It follows that Appellant does not persuade us of error in the Examiner's anticipation rejection of claim 21, and we affirm the Examiner's rejection of this claim.

*Arguments Concerning the Examiner's Rejection of
Claim 22 Under § 102*

The Examiner rejects claim 22 as being anticipated by Zelig. (Ans. 4-6, 8-9.) Specifically, the Examiner interprets claims 22 to include statements of intended use of the forwarder, to which the Examiner assigns no patentable weight. (Ans. 7.) The Examiner also finds Zelig discloses an intermediate node in a multihop pseudo wire, including first and second forwarding logic (forwarding engines and or routers) (the recited first and second forwarders) that terminate a first pseudo wire segment and originate a second pseudo wire segment, respectively. (Ans. 5, 8-9 (citing Zelig ¶¶ [0036], [0050]; Figs. 1, 2, 4, 5, 6).)

Appellant contends that "Zelig does not disclose or suggest an intermediate node in a multihop pseudo-wire comprising a first forwarder for terminating a first pseudo-wire segment and a second forwarder for originating a second pseudo-wire segment as required by claim 22" because "Zelig illustrates three routers 96, but there is no disclosure of the routers having 'a first forwarder logic and second forwarder logic.' Furthermore, the virtual bridges 94 and the routers 96 are not disclosed as being connected by pseudo-wires." (Br. 13.)

Based on the record before us, we do not find error in the Examiner's anticipation rejection of claim 22. We agree with the Examiner that the limitations of Appellant's claim recite a first and a second forwarder and intended uses of the forwarders (Ans. 6) and that Zelig discloses the pseudo wires and forwarding engines as recited in Appellant's claim (Ans. 4, 8-9). (*See* discussion (*supra*).)

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Appellant's claim 22 recites, in relevant part:

> a first forwarder for terminating a first pseudo-wire segment of said multihop pseudo-wire, where a description of said first pseudo-wire segment includes, as a target, an attachment individual identifier associated with said first forwarder; and
>
> a second forwarder for originating a second pseudo-wire segment of said multihop pseudo-wire, where a description of said second pseudo-wire segment includes, as a source, an attachment individual identifier associated with said second forwarder.

(Br. 15, claim 22.) As explained with respect to claim 21 (*supra*), Appellant's claim recites a first forwarder and a second forwarder, which we conclude to be devices, and the "descriptions" of the pseudo wire segments represent non-functional descriptive material. Similarly, the recited functionalities of the forwarders are merely statements of intended use that are not relevant to whether the forwarders are anticipated by the prior art.

Therefore, we broadly but reasonably construe Appellant's disputed claim limitations to at most require first and second forwarding logic in a pseudo wire (pseudo wire network). Based on our claim construction, we find that Zelig discloses such first and second forwarding logic. (FF 1-3.)

As explained by the Examiner (Ans. 7), assuming *arguendo* we ascribe patentable weight to the statements of intended use and non-functional descriptive material, Zelig describes the first and second forwarders as recited in claim 22. As we explained with respect to claim 21, Zelig describes virtual bridges that each includes a forwarding engine. These virtual bridges connect to one another through pseudo wire connections and connect to user nodes through virtual pseudo wire connections. (*See* FF 1, 3.) Zelig also describes a VPN utilizing the

multicast capabilities of an underlying network, wherein the virtual bridges connect to one another through routers, which may be multicast-capable label-switched routers (LSRs), interconnected by MPLS tunnels. (FF 3; *compare* Spec. ¶¶ [0030]-[0032].) Accordingly, we find that, no matter which combination of devices we consider, Zelig discloses multiple virtual bridges and/or routers interconnected by pseudo wire connections.

Thus, we also find that Zelig discloses the disputed claim limitations of "a first forwarder" that "terminat[es] a first pseudo-wire segment," and "a second forwarder" that "originat[es] a second pseudo-wire segment" as recited in Appellant's claim 22. Also, Appellant failed to file a Reply Brief to rebut the findings and responsive arguments made by the Examiner in the Answer. For this reason and the reasons stated above, we find Appellant's contrary arguments unavailing. It follows that Appellant does not persuade us of error in the Examiner's anticipation rejection of claim 22, and we affirm the Examiner's rejection of this claim.

Arguments Concerning the Examiner's Rejection of
Claims 21 & 22 Under § 102(b) With Respect to Li

The Examiner also rejects claims 21 and 22 as being anticipated by Li. (Ans. 5-9.) We do not reach these this rejection because "[t]he affirmance of the rejection of a claim on any of the grounds specified constitutes a general affirmance of the decision of the examiner on that claim." 37 C.F.R. § 41.50(a)(1) (2010).

CONCLUSIONS OF LAW

Appellant has not shown that the Examiner erred in rejecting claims 21 and 22 under 35 U.S.C. § 102(e).

We do not reach the question of whether the Examiner erred in rejecting claims 21 and 22 under 35 U.S.C. § 102(b).

DECISION

We affirm the Examiner's rejection of claims 21 and 22 under 35 U.S.C. § 102(e) and do not reach the Examiner's rejection of claims 21 and 22 under 35 U.S.C. § 102(b).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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